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EXAMINER

HO, ALLEN C

ART UNIT	PAPER NUMBER
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2882

DATE MAILED: 08/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/063,429

Applicant(s)

BOOMGAARDEN ET AL.

Examiner

Allen C. Ho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-20 and 32-38 is/are allowed.
- 6) ☒ Claim(s) 1,6-9,21-26,30,31,39 and 45-49 is/are rejected.
- 7) ☒ Claim(s) 2-5,10,11,27-29 and 40-44 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 April 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 6-9, 21-23, 30, 31, 39, 45, and 46 are rejected under 35 U.S.C. 102(e) as being anticipated by Smith *et al.* (U. S. Patent No. 6,282,264 B1).

With regard to claim 1, Smith *et al.* disclosed a patient support system for a medical imaging system, comprising: a lateral rail structure (20) attachable to a receptor (34) of the medical imaging system; and a patient support (40) movably coupled to the lateral rail structure via a rail guide (14).

With regard to claim 6, Smith *et al.* disclosed the patient support system of claim 1, wherein the patient support is continuously movable and securable along the lateral rail structure.

With regard to claim 7, Smith *et al.* disclosed the patient support system of claim 1, wherein the patient support is a patient limb support (it supports the entire body including the limbs).

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With regard to claim 8, Smith *et al.* disclosed the patient support system of claim 1, wherein the patient support is a patient extremity support (it supports the entire body including the extremities).

With regard to claim 9, Smith *et al.* disclosed the patient support system of claim 8, wherein the patient support is adapted to position patient extremity in a non-obstructive location relative to the receptor.

With regard to claim 21, Smith *et al.* disclosed a medical imaging system, comprising: a radiographic receptor (34); a rail structure (20) coupled to the radiographic receptor; and a patient extremity support (40) slidably coupled to the rail structure.

With regard to claim 22, Smith *et al.* disclosed the medical imaging system of claim 21, wherein the radiographic receptor is a digital detector assembly (column 5, lines 49-50).

With regard to claim 23, Smith *et al.* disclosed the medical imaging system of claim 21, wherein the radiographic receptor is coupled to a positioning system (the entire system is a positioning system).

With regard to claim 30, Smith *et al.* disclosed the medical imaging system of claim 21, wherein the patient extremity support is movable in infinitesimal increments (continuous) along the rail structure.

With regard to claim 31, Smith *et al.* disclosed the medical imaging system of claim 21, wherein the patient extremity support is adapted to position a patient limb in a non-obstructive location relative to the radiographic receptor.

With regard to claim 39, Smith *et al.* disclosed a method of forming a laterally adjustable limb support for a medical imaging system, comprising the steps of: providing a lateral rail

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structure (20) attachable to a receptor (34) of the medical imaging system; and slidably coupling a limb support (40) to the lateral rail structure.

With regard to claim 45, Smith *et al.* disclosed a patient support structure for a medical imaging system, comprising: patient support means (40) for supporting a patient extremity (it supports the entire body); and sliding attachment means (20) for coupling the patient support means to a receptor (34) of the medical imaging system.

With regard to claim 46, Smith *et al.* disclosed the patient support structure of claim 45, wherein the sliding attachment means have a substantially linear path.

3. Claims 21-24, 30, 31, 45, and 46 are rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe (U. S. Patent No. 6,155,713).

With regard to claim 21, Watanabe disclosed a medical imaging system comprising: a radiographic receptor (12); a rail structure (4) coupled to the radiographic receptor; and a patient extremity support (16) slidably coupled to the rail structure.

With regard to claim 22, Watanabe disclosed the medical imaging system of claim 21, wherein the radiographic receptor is a digital detector assembly (Fig. 5).

With regard to claim 23, Watanabe disclosed the medical imaging system of claim 21, wherein the radiographic receptor is coupled to a positioning system (8).

With regard to claim 24, Watanabe disclosed the medical imaging system of claim 21, wherein the rail structure is coupled to an upper rear portion (11) of the radiographic receptor.

With regard to claim 30, Watanabe disclosed the medical imaging system of claim 21, wherein the patient extremity support is movable in infinitesimal increments (continuous) along the rail structure.

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With regard to claim 31, Watanabe disclosed the medical imaging system of claim 21, wherein the patient extremity support is adapted to position a patient limb in a non-obstructive location relative to the radiographic receptor (Fig. 4).

With regard to claim 45, Watanabe disclosed a patient support structure for a medical imaging system, comprising: patient support means (16) for supporting a patient extremity; and sliding attachment means (4) for coupling the patient support means to a receptor (12) of the medical imaging system.

With regard to claim 46, Watanabe disclosed the patient support structure of claim 45, wherein the sliding attachment means have a substantially linear path (4).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe (U. S. Patent No. 6,155,713) as applied to claim 21 above, and further in view of Siczek *et al.* (U. S. Patent No. 4,979,202).

With regard to claims 25 and 26, Watanabe disclosed the medical imaging system of claim 21. However, Watanabe failed to teach that the rail structure has a convex curvilinear path.

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Siczek *et al.* disclosed a medical imaging system comprising a rail structure (9) that has a convex curvilinear path.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a rail structure that has a convex curvilinear path, since a curvilinear path provides additional degrees of freedom of positioning the patient relative to the radiographic receptor.

6. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe (U. S. Patent No. 6,155,713) as applied to claim 45 above, and further in view of Siczek *et al.* (U. S. Patent No. 4,979,202).

With regard to claim 47, Watanabe disclosed the patient support structure of claim 45. However, Watanabe failed to teach that the sliding attachment means has a curvilinear path.

Siczek *et al.* disclosed a patient support structure comprising a sliding attachment means (8) that has a curvilinear path.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a sliding attachment means that has a curvilinear path, since a curvilinear path provides additional degrees of freedom of positioning the patient relative to the radiographic receptor.

7. Claims 48 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith *et al.* (U. S. Patent No. 6,282,264 B1) as applied to claim 45 above.

With regard to claim 48, Smith *et al.* disclosed the patient support structure of claim 45. However, Smith *et al.* failed to teach that the patient support structure further comprises support-releasing means for releasing the patient support means from the sliding attachment means

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It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide support-releasing means, since a person would be motivated to remove the patient support means from the patient support structure for maintenance or repair.

With regard to claim 49, Smith *et al.* disclosed the patient support structure of claim 45. However, Smith *et al.* failed to teach that the patient support structure further comprises support-securing means for removably securing the patient support means to the sliding attachment means.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide support-securing means, since a person would be motivated to provide a means for easy removal of the patient support means for maintenance or repair.

8. Claims 48 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe (U. S. Patent No. 6,155,713) as applied to claim 45 above.

With regard to claim 48, Watanabe disclosed the patient support structure of claim 45. However, Watanabe failed to teach that the patient support structure further comprises support-releasing means for releasing the patient support means from the sliding attachment means

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide support-releasing means, since a person would be motivated to remove the patient support means from the patient support structure for maintenance or repair.

With regard to claim 49, Watanabe disclosed the patient support structure of claim 45. However, Watanabe failed to teach that the patient support structure further comprises support-securing means for removably securing the patient support means to the sliding attachment means.

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It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide support-securing means, since a person would be motivated to provide a means for easy removal of the patient support means for maintenance or repair.

Allowable Subject Matter

9. Claims 2-5, 10, 11, 27-29, and 40-44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

With regard to claims 2 and 3, although the prior art discloses the patient support system of claim 1, it fails to teach or fairly suggest that the lateral rail structure has a curvilinear path.

With regard to claim 4, although the prior art discloses the patient support system of claim 1, it fails to teach or fairly suggest that the rail guide structure is releasably coupled to the lateral rail structure via a releasable latch.

With regard to claim 5, although the prior art discloses the patient support system of claim 1, it fails to teach or fairly suggest that the patient support is positionally securable along the lateral rail structure via a friction-based mechanism activated by a patient load applied to the patient support.

With regard to claims 10 and 11, although the prior art discloses the patient support system of claim 1, it fails to teach or fairly suggest that the patient support comprises a plurality of handgrips.

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With regard to claim 27, although the prior art discloses the medical imaging system of claim 25, it fails to teach or fairly suggest that the patient extremity support tiltingly slides along the rail structure with the curvilinear path.

With regard to claim 28, although the prior art discloses the medical imaging system of claim 21, it fails to teach or fairly suggest that the system further comprises a releasable latch structure coupling the patient extremity support to the rail structure.

With regard to claim 29, although the prior art discloses the medical imaging system of claim 21, it fails to teach or fairly suggest that the patient extremity support is frictionally securable along the rail structure via a holding mechanism activated by weight of a patient extremity supported by the patient extremity support.

With regard to claims 40 and 41, although the prior art discloses the method of claim 39, it fails to teach or fairly suggest that the lateral rail structure has a curvilinear path.

With regard to claim 42, although the prior art discloses the method of claim 39, it fails to teach or fairly suggest that the method further comprises the step of providing a vertical release mechanism to facilitate vertical release of the limb support from the lateral rail structure.

With regard to claims 43 and 44, although the prior art discloses the method of claim 39, it fails to teach or fairly suggest that the method further comprises the step of providing a friction-based securement mechanism to secure the limb support at a desired position along the lateral rail structure.

11. Claims 12-20 and 32-38 are allowed.

12. The following is an examiner's statement of reasons for allowance:

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With regard to claims 12-20, although the prior art discloses a patient support for an imaging system comprising a rail structure attachable to, and movable with, a radiographic receptor of the imaging system, and a patient support for an imaging system comprising a limb support slidably coupled to a rail structure, it fails to teach or fairly suggest a patient support for an imaging system comprising a curvilinear rail structure attachable to, and movable with, a radiographic receptor of the imaging system, and a limb support slidably coupled to the curvilinear rail structure, as claimed in claim 12.

With regard to claims 32-38, although the prior art discloses a method of supporting a patient limb during imaging acquisition by a medical imaging system comprising the steps of sliding a limb support along a rail structure coupled to a radiographic receptor of the medical imaging system and securing the limb support in a desired position along the rail structure, it fails to teach or fairly suggest a method of supporting a patient limb during imaging acquisition by a medical imaging system comprising sliding a limb support along a rail structure coupled to, and movable with, a radiographic receptor of the medical imaging system and securing the limb support in a desired position along the rail structure, as claimed in claim 32.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- (1) Graumann (U. S. Patent No. 6,496,558 B2) disclosed a lateral rail structure attached to a receptor for a medical imaging system.

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- (2) Rudin *et al.* (U. S. Patent No. 6,285,739 B1) disclosed a lateral rail structure attached to a receptor for a medical imaging system.
- (3) Strawder (U. S. Patent No. 5,226,068) disclosed a patient support attached to a receptor.
- (4) Siczek *et al.* (U. S. Patent No. 5,014,292) disclosed a patient support movably coupled to a lateral rail structure.
- (5) Shimkus (U. S. Patent No. 4,507,799) disclosed a limb support coupled with a receptor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen C. Ho whose telephone number is (703) 308-6189. The examiner can normally be reached on Monday - Friday from 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward J. Glick can be reached at (703) 308-4858. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0530.

ACH

Allen C. Ho

Allen C. Ho
Patent Examiner
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